DRAFT DECISION MEMO
FOR
EASTERN DIVIDE HIGHLANDS PRESCRIBED FIRE PROJECT

USDA – Forest Service
George Washington and Jefferson National Forests
Eastern Divide Ranger District
Botetourt, Craig, Roanoke, Giles, Bland, Pulaski, Wythe, Tazewell, and Montgomery Counties, Virginia

1. DECISION

I have decided to implement the Eastern Divide Highlands Prescribed Fire Project. This project will occur across most of the Eastern Divide Ranger District on the Jefferson National Forest (see Map 1-Vicinity Map). More specifically, this decision includes the following:

1. Prescribe burn approximately 91,010 acres every 3-5 years (up to 20,000 acres annually) for 10 years, or until desired conditions are achieved, followed by every 5-15 years to maintain the conditions created by fire. The project area comprises: 26 new burn units totaling about 75,981 acres; 10 existing burn units totaling about 14,383 acres, that have been treated multiple times; and six open areas totaling about 646 acres.

   Table 1 identifies the new burn units, existing burn units and open areas.

2. Existing firelines, roads, and trails will be used as control lines to the extent practical. Approximately 28.6 miles of new handline construction and 38.5 miles of new dozer line construction will occur on the new prescribed burn units. Continuous stretches of dozer line will typically not exceed slopes over 30 percent, but may be considered in small sections where there is minimal risk of soil erosion and sedimentation impacts. Steep, rocky sections not accessible to dozers or at high risk of erosion and sedimentation impacts will instead be constructed with handline.

3. Creation of up to 27 small helispots within identified burn units (see enclosed individual burn unit maps). These areas are approximately 110 feet by 110 feet that would be cleared for the use of a light Type 3 helicopter (< 9 passengers) for fire operations. Discussions with emergency response entities have indicated that these helispots would also be beneficial for medical use helicopters, such as Life-Guard 10. Helispots will be cleared using chainsaws prior to the first prescribed burn treatment and will be periodically maintained prior to subsequent treatments or in the event of a wildfire in the units.

These treatments will occur entirely on National Forest System (NFS) lands (see Maps 2 – 32 for detailed maps). Burning is most likely to occur to in the spring, summer, or fall but may be conducted any time weather conditions are favorable. Ignition of burns may be conducted through both aerial and hand-firing methods. The number of acres treated per year is dependent upon weather conditions, staffing, and available funding. Considering those limitations, units that will receive priority include those units developed in conjunction with the Virginia Department of Forestry within the Wildland Urban Interface, units developed using the ecological model created by The Nature Conservancy to identify fire-adapted/fire-dependent vegetation, and existing burn units/open areas that are due for another treatment.

Table 1. Proposed New Rx Burn Units, Existing Rx Burn Units, and Existing Open Areas

	RX BURN UNIT	ACRES
NEW RX BURN UNITS	Bald Mountain: Units 1-4	5,850
	Beartown: Fuel Break, Unit 1	434
	Blacksburg Shooting Range: Unit 1	260
	Broad Run	1,881
	Brush Mountain East: Fuel Break, Units 1-3	1,503
	Brush Mountain West: Fuel Break, Units 1-10	3,202
	Brushy Mountain: Units 1-4	2,934
	Caldwell Mountain	3,644
	Dismal: Units 1-5	5,983
	Fenwick Rec Area: Units 1-2	464
	Johns Creek Mountain	6,177
	Kimberling Creek	2,205
	Lick Mountain	628
	Little Mountain	564
	Little Walker Mountain: Units 1-3	1,076
	North Mountain	6,872
	Nutters Mountain	742
	Pearis Mountain	855
	Peters Mountain	1,733
	Porterfield Road	121
	Potts Mountain: Units 1-10	9,474
	Price Mountain: Units 1-6	6,837
	Round Mountain East: Units 1-3	1,836
	Sinking Creek Mountain: Units 1-3	3,042
	Tract Mountain: Units 1-5	5,976
	Walker Mountain	1,688
	Subtotal	**75,981**
EXISTING RX BURN UNITS	Kelly Flats- Mud Branch	240
	Mill Creek: Units 1-2	670
	No Business: Units 1-6	4,973
	Patterson: Units 1-2	2,247
	Piney Mountain: Units 1-2	1,169
	Powderhouse	278
	Rocky Mountain -Cherokee Strip	1,176
	Rocky Mountain -Nettle Hollow	1,298
	Round Mountain West: Units 1-3	1,363
	Upper Craig Creek: Units 1-2	969
	Subtotal	**14,383**
EXISTING RX OPEN BURN AREAS	Barbours Creek	70
	Bunch Place: Units 1-3	87
	Burris	42
	Caldwell Fields	45
	Craig Creek Rec. Area Whole and Grass	352
	Liatris	50
	Subtotal	**646**
	Total	**91,010**

2. BACKGROUND, EXISTING AND DESIRED CONDITIONS, AND NEED

Background

Recent research (Pyne 1982, Sutherland 1993, Hicks 2000, Hutchinson and Sutherland 2000, Kay 2000, Shumway et al. 2001, Schular and McClain 2003, Lafon and Grissino-Mayer 2007, Lafon et al. 2017) has shown the historic frequency and role that periodic fire (both human and lightning caused) has played in shaping the vegetation our landscape supports. Historical records indicate that Native Americans used low intensity fires in our area prior to European settlement and early European settlers continued this practice. Fire was used in efforts to drive game, but more importantly to improve wildlife habitat, maintain open meadows and grasslands, and clear undergrowth, especially in proximity to settlements (Pyne 1982, Van Lear and Waldrop 1989, Delcourt and Delcourt 1996, 1998).

The woodland structure (open park-like understory) and tree composition (American chestnut, oak, and southern yellow pine) of these forests was long influenced and maintained by frequent fires. The evidence concerning fire and vegetation history of the Appalachian region is consistent with the fire-oak hypothesis (Lorimer and others 1994, Nowacki and Abrams 2008), which proposes that frequent surface fires maintained an open canopy and understory that enabled the established of oaks and inhibited the recruitment of mesophytic competitors (Lafon et al. 2017). Fire also created an environment which favored yellow pine species on dry ridge tops and spur ridges. Tree-ring and fire scar studies conducted in the mid-Appalachians (including western and southwest Virginia) indicate that from at least the early-1700s until the 1930s our forests burned on an interval of approximately three to ten years and that occasionally more intense stand-replacing fires occurred (Aldrich et al. 2010, 2014; Lafon et al. 2017). Earlier than the 1700s, studies of charcoal deposits in pond and wetland sediments indicate fire has been common in our landscape for thousands of years (Lynch and Clark 2002).

However from the 1930s until recently, quick suppression became the way all fires were managed. All wildland fires were suppressed as quickly as possible regardless of cause, and low intensity intentional burning (commonly called light burning) was abandoned. All fire, both wildland and low intensity burning, was considered harmful to the forest.

Existing and Desired Conditions

With seventy years of fire exclusion, forest structure and composition has, and is continuing, to change. Oak-dominated forests are being replaced by more shade-tolerant species, such as white pine, red maple, and striped maple. Table Mountain pine, pitch pine, and even oak (all fire-adapted and/or fire-maintained species) are in sharp decline over most of their natural range. The 2004 Revised Jefferson National Forest Land and Resource Management Plan (Forest Plan) identifies Table Mountain pine woodlands as a rare community, as it is endemic to the central and southern Appalachian Mountains. In the continued absence of disturbance, shade tolerant trees could become more dominant than oaks in future stand composition since most oaks in our area are intolerant to continuous shade and are unable to compete with vegetation that has a high shade tolerance. Shade also decreases the vigor, flowering, and fruit production of shrubs such as blueberries and huckleberries. As the amount and cover of oak and fruit bearing shrubs decline, the amount of acorn and soft mast will decrease and negatively affect wildlife species such as grouse, turkey, deer, and squirrels. Rhododendron, which should be located in moist north-facing drainages, is now encroaching onto upper, drier slopes. Research has shown that frequent fires are initially essential for ecological restoration in areas where fire has been excluded for long periods of time in order to develop woodland flora and reduce the shrub and tree cover in the mid and understory layers (Brose et al. 2014).

Pine forests commonly occur on xeric ridgetops and southwest-facing slopes at mid-elevations in the southern Appalachian Mountains (Williams 1998). Yellow pine species, namely shortleaf pine, Virginia pine, pitch pine, and Table Mountain pine, co-occur throughout southwestern Virginia as limited by elevation and other site characteristics. Williams and Johnson (1990) studied Table Mountain pine populations on Brush Mountain in Montgomery County, VA and hypothesized that without fire, the species was likely to decline. However, because individuals can live over 200 years, it is thought that the species will continue to be a component of these forests for several years before the lack of recruitment causes a noticeable loss.

Pitch pine and Table Mountain pine require open, exposed sites for germination, are drought tolerant, shade intolerant, and have thick, insulating bark. Table Mountain pine cones exhibit cone serotiny, requiring moderate heat for seed dispersal. Pitch pine can exhibit degrees of serotiny in part of its range. Lack of regeneration and the inability to compete with established hardwoods has led to measurably smaller associated communities (Gibson and Hamrick 1991, Williams 1991, Groeschl et al. 1992, Sutherland et al. 1993, Waterman et al. 1995, Turrill 1998, Williams 1998, Waldrop et al. 2000). As pines lose vigor and become susceptible to periodic southern pine beetle attacks or some other malady, their range grows smaller. When burned, the declining pine stands, often associated in a fuel complex with mountain-laurel, can result in a fire intensity that provides the necessary conditions for regeneration of those stands. These pine stands are typically on poorer, drier sites of timber productivity where soils are steep and thin. The timber itself is poor quality, with minimum marketing potential.

Today, prescribed burning is used to mimic early Native American, European settler, and lightning caused fires to recreate historic conditions. It is expected that prescribed fire, similar to mechanical harvesting, will create a mosaic of forest successional stages from early to late resulting from varying fire intensities associated with topographic features, vegetative types, and fuel accumulations. Effects of a fire will range from very little disturbance to small, isolated areas of heavy scorch. These small areas of scorch cause tree mortality and open up the canopy to allow sunlight to reach the forest floor, resulting in dense shrub growth that provides both food and nesting materials for wildlife.

The project areas lie within Management Area 2, the Upper James River (Forest Plan, pp. 4-7 through 4-11) and Management Area 3, the New River Management Area (Forest Plan, pp. 4-11 through 4-15). The desired conditions for these management areas includes restoration of the more open oak and oak-pine woodlands on the drier south-facing slopes and ridgetops through reintroduction of wildland and prescribed fire to benefit many of the wildlife species found throughout these areas. Both early and late successional forest species can find important elements of their habitat needs in these historically widespread communities. Increased use of fire will also reduce potential wildland-urban interface problems along the Forest boundary where communities are developing. There are no objectives specific to these management areas (Forest Plan, pp. 4-7 through 4-15).

Need

The proposed and existing prescribed burns have the following multiple needs:

1. There is a need to enhance habitat for the wildlife including soft mast and cover. Prescribed burning will rejuvenate and stimulate hard/soft mast species so that they produce mast. It stimulates huckleberry, low bush blueberry, and increases herbaceous vegetation and browse. It also rejuvenates grass and forb groundcover, thereby improving wildlife habitat.
2. There is a need to maintain or re-establish an oak forest by increasing oak regeneration, which will increase food production for wildlife. Prescribed fires of low to moderate intensity reduce competition from shade-tolerant species, provide more sunlight on the forest floor by creating small openings in the canopy, and reduce greatly reduce stem density in the midstory.

3. There is a need to maintain or restore native yellow pine forest consisting of Table Mountain pine, pitch pine, and short-leaf pine. Prescribed fires of moderate to high intensity reduce competition from shade-tolerant species, open serotinous cones allowing for seed dissemination, and reduce the duff layer which promotes pine seedling growth.
4. There is a need to reduce accumulations of fuels in and around areas of Wildland Urban Interface (WUI), minimizing the risk of a catastrophic wildfire. Wildfires that do occur in these treated areas will burn with much lower intensity and severity, allowing firefighters to safely engage in suppression operations. Potential threats to structures and property are also significantly lowered.
5. There is a need to change the Fire Regime Condition Class (FRCC) on these areas from a FRCC 3 towards a FRCC 2 and eventually perhaps a FRCC 1. FRCC 3 is a condition of the landscape that is highly departed from its natural (historical) regime of vegetation characteristics; fire frequency, severity and pattern; and other associated disturbances. FRCC 2 defines a condition that has moderately departed from the natural (historical) regime and FRCC 1 defines a fire regime that is within the natural (historical) range of variability. Fire Regime Condition Class, developed by the Forest Service with partners in nine other land management agencies and nongovernmental organizations, is a "standardized tool for determining the degree of departure from natural vegetation, fuels and disturbance regimes". (For detailed information on this subject, visit http://www.frcc.gov). Agencies/organizations involved in developing the FRCC were the Forest Service, National Park Service, U.S. Fish and Wildlife Service, The Nature Conservancy, U.S. Geologic Survey, Systems for Environmental Management, Bureau of Land Management, Missoula Fire Lab, and Bureau of Indian Affairs.

A collaborative effort between the Forest and The Nature Conservancy assessed the vegetative communities and fire dependent and/or fire enhanced species across the District, using an ecological model developed to identify fire-adapted vegetation. The model revealed that most of the Project Area consists of fire-adapted forest (e.g. mixed oak), but there were certain locations that contained high concentrations of fire-dependent tree species like Table Mountain pine that would a high priority for the use of prescribed fire (see Map 33-Fire-adapted forest in the Eastern Divide Ranger District). Burning both fire-dependent pine sites as well as the fire-adapted oak sites should result in the most widespread restoration conditions.

Additionally, the Forest worked with the Virginia Department of Forestry to identify areas of high housing density most at risk from wildfires, as shown in Map 34-Community Protection Zones. The “Community Protection Zones’ GIS layer from the Wildfire Risk Assessment Portal (https://www.southernwildfirerisk.com) was utilized to prioritize burns and fuel breaks.

3. DESIGN FEATURES AND MITIGATIONS

Every prescribed burn must have an accompanying Prescribed Fire Plan (PMS 484-1): a legal document that provides the agency administrator (official that has been delegated or assigned the authority and responsibility for the prescribed fire) the information needed to approve the plan, and the prescribed fire burn boss with the information needed to implement the prescribed fire. A prescribed fire plan must be completed, reviewed, and approved before ignition can begin. The 21 required elements in a fire plan include:

- Complexity Analysis: a decision support tool designed to provide insight and improve understanding of the significant risk-related elements of a prescribed fire (such as safety of personnel) based on site-specific conditions.
- Description of the prescribed fire area: describes the location, size, topography, vegetation, and fuels within the area.

- Burn Objectives: well-defined statements describing how a treatment accomplishes project goals as described through the NEPA process and documented in the decision document. The objectives will determine the ignition patterns and tactics used to implement the burn.
- Prescription Parameters: the measurable criteria during which a prescribed fire may be ignited to meet the burn's objectives. It describes a range of low-to-high limits for the environmental and/or fire behavior parameters required to meet objectives.
- Ignition Plan: describes general ignition operations such as firing methods, devices, techniques, and sequences. During active ignition, actual firing patterns, techniques, sequences, and staffing will be determined and adjusted to meet objectives as dictated by topographic, fuels, and weather factors.
- Smoke Management and Air Quality: describes how the project will comply with local, county, state, tribal, and federal air quality regulations. Identifies any smoke sensitive areas, such as population centers, hospitals, schools, Class I areas, and transportation corridors. May include modeling outputs and mitigation strategies to reduce the impacts of smoke production.
- Monitoring: required to ensure that prescribed fire plan objectives are met. At a minimum specifies the weather (forecast and observed), fire behavior and fuels information, and smoke dispersal monitoring required during all phases of the project and the procedures for acquiring it, including who and when.

The prescribed fire plan must be written in accordance with the Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484), agency policy and direction, and the NEPA decision document. Plans will be written in coordination with resource and technical specialists to ensure that resource management and operational objectives are met.

An adaptive management strategy will be used to ensure that the most current and relevant knowledge, experience, and methods are considered and utilized to achive desired conditions. Burn units will be assessed, as capacity and funding allow, using one or more of the following monitoring protocols:

- Canopy Gap Analysis- uses GIS to identify areas of canopy mortality within burn units, up to several years after a burn event. Three categories of forest are delineated: Early Successional (0-30% canopy cover), Open-Canopied (31-50% canopy cover), and Closed-Canopied (>50% canopy cover).
- Forest Structure and Composition Monitoring Protocol- uses field sampling to measure changes in key indicators of ecological condition over time (i.e. overstory, midstory, and understory). The Protocol was first developed in 2009 with the collaboration of The Nature Conservancy. It is specifically designed to determine trends across large landscapes (i.e. multiple burn units), but can also roughly estimate changes within an individual burn unit.
- Photo monitoring- uses permanent points to visually capture vegetative structure and condition over time.

Results from monitoring will be used to inform future management actions on the District as well as the Forest, and will be shared with the larger land management and scientific communities.

Additionally, a contact list will be prepared to notify affected federal and state agencies, local fire departments, and nearby private land owners of the date of an upcoming burn. Likewise, the Prescribed Fire Burn Plan will include a contingency plan should a fire escape, taking into account the nearest private land, dwellings, and other structures.

Implementation of these prescribed burns will follow Forest Service policy. All applicable standards and guidelines as described in the 2004 Revised Land and Resource Management Plan for the Jefferson National Forest (Forest Plan) are included in the design criteria for this project and will be followed during project implementation. In addition, the following site-specific mitigation measures will be followed with the implementation of this project:

- For the purpose of public safety during the implementation of a burn, impacted roads and trails in the burn unit may be temporarily closed. Public notification of these closures will occur.
- Firing sequences along existing trails and roads used as control lines will be done in a manner that provides the least amount of mortality to overstory trees and at the same time, enhance and maintain visual quality along those corridors.
- Non-native invasive species (NNIS) identified within and along burn unit perimeters may be controlled using a low volume foliar spray, basal spray, or cut surface treatment. The use of herbicides to treat NNIS will tier to the Forestwide Non-Native Invasive Plant Control Environmental Assessment of 2010.
- Within Inventoried Roadless Areas, new dozer lines will meander to avoid impacting larger trees as much as possible. After a burn is extinguished all dozer lines and/or handlines will be water barred, revegetated, and blocked to vehicular traffic with necessary berms and signage to minimize the potential for soil erosion and sedimentation.
- Construction of helispots will not exceed slopes of 20 percent, and will not be located in known old growth communities.
- Areas around known high elevation ponds will not be burned during periods of drought (when the Keetch-Byram Drought Index is more than 200 points above the average for the relevant time of year).
- Areas of known piratebush will be avoided during ignitions by the construction of temporary handline.
- Within Riparian Corridors and Reference Watersheds, prescribed fires will be planned to use existing barriers and natural fuel breaks, such as, streams, lakes, wetlands, rock slides, roads, and trails, to reduce the need for fire line construction.
- Construction of firelines with heavy mechanized equipment (e.g. bulldozers) in riparian corridors is prohibited. Hand lines, wet lines, or black lines are used to create firelines within the riparian corridor to minimize soil disturbance. Water diversions are used to keep sediment out of streams. Firelines are not constructed in stream channels, but streams may be used as firelines.

4. RATIONALE FOR CATEGORICAL EXCLUSION

The Chief of the Forest Service has established categories of actions that can be excluded from documentation in an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). This project falls within the following category as identified in the Forest Service Environmental Policy and Procedures Handbook (FSH 1909.15, Chapter 30, Section 32.2).

> **Category 32.2.6 – Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than one mile of low standard road construction (36 CFR 220.6(e)(6)).**

I have determined that there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative environmental effect. However, because this proposed action has several extraordinary circumstances and the potential for cumulative effects that may warrant an EA or EIS, the project record includes additional documentation to support this decision.

The Proposed Action is designed to meet the direction set in the Forest Plan (Plan, pp. 2-10, 2-20, 2-24, 2-36 through 2-38) to: a) reduce accumulations of fuels in and around areas of Wildland Urban Interface (WUI), minimizing the risk of a catastrophic wildfire; b) maintain or restore native yellow pine forests consisting of Table Mountain pine, pitch pine, and shortleaf pine; c) maintain or re-establish oak forests by increasing oak regeneration, which in turn increases food production for wildlife; d) change the Fire Regime Condition Class (FRCC) on the areas from a FRCC 3- highly departed from the historical regime to FRCC 2 and eventually a

FRCC 1- within the historical range of variability; e) enhance habitat for wildlife including soft mast and cover; and f) maintain healthy and resilient ecosystems.

This decision establishes a suite of areas for the use of prescribed fire that allows for flexible management based on priorities, capacities, and weather conditions. It also informs any future decision to allow unplanned wildland fire to be managed to meet the resource benefits of the area instead of using full suppression tactics.

The project area lies within Management Area 2, the Upper James River (Forest Plan, pp. 4-7 through 4-11) and Management Area 3, the New River Management Area (Forest Plan, pp. 4-11 through 4-15). The desired conditions for these management areas include restoration of the more open oak and oak-pine woodlands on the drier south-facing slopes and ridgetops through reintroduction of wildland and prescribed fire to benefit many of the wildlife species found throughout these areas. Both early and late successional forest species can find important elements of their habitat needs in these historically widespread communities. Increased use of fire will also reduce potential wildland-urban interface problems along the Forest boundary where communities are developing. There are no objectives specific to these management areas (Forest Plan, pp. 4-7 through 4-15). Table 2 provides a description of the Forest Plan management prescriptions and the total acres with each prescription that are encompassed in the Rx fire units and open areas.

Table 2. Forest Plan Management Prescription Descriptions and Acres

MANAGEMENT PRESCRIPTION CODE	DESCRIPTION	TOTAL ACRES
4A	Appalachian National Scenic Trail Corridor	3,040
4D	Botanical – Zoological Areas	37
4E	Cultural/Heritage Areas	738
4J	Urban/Suburban Interface	1,641
5A	Administrative Sites	23
5B	Designated Communication Sites	17
5C	Designated Utility Corridors	717
6A	Old-Growth Forested Communities Not Associated With Disturbance	4
6B	Old-Growth Forested Communities Dependent on Fire	74
6C	Old-Growth Forested Communities Associated with Disturbance	5,418
7B	Scenic Corridors	1,191
7D	Concentrated Recreation Zones	886
7E1	Dispersed Recreation Areas-Unsuitable for Timber Production	3,486
7E2	Dispersed Recreation Areas-Suitable for Timber Production	5,617
8A1	Mix of Successional Habitats in Forested Landscapes	28,401
8B	Early Successional Habitat Emphasis	4,584
8C	Black Bear Habitat Management	1,868
8E1	Ruffed Grouse/Woodcock Habitat Emphasis	1,402
8E4b	Indiana Bat Secondary Cave Protection Area	2,333
9A1	Source Water Protection Watersheds	5,946
9A2	Reference Watersheds	492
9A3	Watershed Restoration Areas	525
9A4	Aquatic Habitat Areas	248
9F	Rare Communities	829

MANAGEMENT PRESCRIPTION CODE	DESCRIPTION	TOTAL ACRES
9H	Management, Maintenance and Restoration of Forest Communities	2,559
11	Riparian Corridor	*
12B	Remote Backcountry Recreation- Non-Motorized	19,787

* Riparian Corridors are embedded within the other Management Prescriptions

The use of prescribed fire is compatible with these prescriptions as described in the following Forest Plan direction:

4A (Forest Plan, pp. 3-19 through 3-23): Low intensity vegetation management is appropriate to maintain the long term goals and stewardship objectives of the Appalachian National Scenic Trail prescription area. Management activities needed to preserve or create vistas and desirable open areas are a high priority. Maintenance methods may include cultivation, grazing, herbicides, mowing, and burning. Prescribed fire can be used to maintain open areas, old field habitats and vistas to enhance the scenic qualities of the Appalachian Trail, manage fuels, or restore, enhance or mimic historic fire regimes.

4D (Forest Plan, pp. 3-27 through 3-30): The natural evolving or natural appearing landscape character of these areas exhibits a variety of forested and non-forested communities frequently associated with disturbance like fire. Prescribed fire, wildlife habitat improvements, domestic livestock grazing, integrated pest management, and occasional low intensity timber harvest are appropriate management tools to maintain the long-term goals of the desired condition in these areas related to the improvement of threatened, endangered, sensitive, and locally rare species habitat.

4E (Forest Plan, pp. 3-30 through 3-34): Low intensity prescribed fire can be used to maintain the long- term goals of the desired condition related to education and interpretation of historic uses in these areas.

4J (Forest Plan, pp. 3-37 through 3-39): The vegetative composition and structure of these lands serve as a firebreak to reduce the inherent risks of wildland fire, increase the likelihood of successful fire suppression, and to reintroduce a frequent low intensity fire regime fire into fire-adapted ecosystems. Fuel treatments (such as the fuel break burn units) are designed to reduce stand density, reduce ladder fuels, and to reestablish the open woodland character of xeric and oak ecosystems.

5A/5B/5C (Forest Plan, pp. 3-69 through 3-73): Prescribed fire can be used to reduce hazardous fuels around administrative sites, communication sites, and designated utility corridors, reducing the risk to infrastructure in the event of a wildfire. Additionally, these areas are managed to retain low growing vegetation consisting predominately of low grasses, wildflowers, with some native deciduous and evergreen shrubs, low-growing trees and young, sapling-sized trees.

6A (Forest Plan, pp. 3-73 through 3-77): Management-ignited prescribed fire is not planned within these areas, but there is no reason to exclude these areas when prescribed fire is planned in adjacent areas (Forest Plan standard 6A-013). The four acres in this management prescription is in the middle of Johns Creek Mountain Unit 1.

6B (Forest Plan, pp. 3-77 through 3-80): The area contains a representation of the forest community types dependent on fire for successful regeneration, including the southern yellow pine types. The reintroduction of pulsed; high and low intensity fire is the key to the restoration and maintenance of table mountain and pitch pine forests.

6C (Forest Plan, pp. 3-80 through 3-84): Prescribed fire can be used to: maintain and restore the represented old growth forest community type; improve threatened, endangered, sensitive or locally threatened species habitat; restore, enhance or mimic historic fire regimes; or control non-native invasive species or pests.

7B (Forest Plan pp. 3-88 – 3-92): Prescribed fire can be used to maintain the natural characteristics that make these areas scenic. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of opening and pastoral areas.

7D (Forest Plan, pp. 3-96 through 3-100): Prescribed fire is permitted for vegetation management to meet scenery, landscape character, and hazard fuels reduction objectives. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of opening and pastoral areas.

7E1/7E2 (Forest Plan, pp. 3-100 through 3-105): Prescribed fire, integrated pest management and commercial timber harvest are appropriate to manage vegetation in these areas. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of opening and pastoral areas.

8A1/8B/8C (Forest Plan, pp. 3-112 through 3-120): Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire is used to maintain the hard mast producing capabilities of the forest communities containing oaks and hickories. Prescribed fire is used to maintain the diversity of age, structure, and species composition of forest communities across the landscape.

8E1 (Forest Plan, pp. 3-125 through 3-128): Prescribed fire plays an important role in the maintenance of many of the forested communities found throughout this management prescription. Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire and commercial timber harvest are employed to maintain the hard mast-producing capabilities of the forest communities containing oaks and hickories.

8E4b (Forest Plan, pp. 3-141 through 3-147): Prescribed burning can be used to maintain flight and foraging corridors in upland and riparian areas potentially used by bats in the summer.

9A1 (Forest Plan, pp. 3-151 through 3-155): Prescribed fire use is appropriate to maintain the long-term goals and stewardship objectives of the source water protection watershed, which include: maintenance, restoration and enhancement of the diversity and complexity of native vegetation; reduction of fuel buildups; and provision of habitat for a variety of wildlife species.

9A2 (Forest Plan, pp. 3-156 through 3-160): Prescribed fire and wildland fire use are allowed to reduce wildland fire potential due to high fuel loadings and to manage vegetation. There is no dozer line construction or helispot construction proposed in the Sulfur Hollow reference watershed.

9A3 (Forest Plan, pp. 3-160 through 3-162): Prescribed fire can be used to enhance structural diversity within mixed mesophytic and dry-to-mesic oak forest communities.

9A4 (Forest Plan, pp. 3-163 through 3-166): Prescribed fire can be used to reduce fuel buildups, maintain pastoral settings, and to restore forest communities that contribute to soil and water restoration and improvement.

9F (Forest Plan, pp. 3-166 through 3-170): Prescribed fire can be used to restore or maintain desired conditions for these rare communities.

9H (Forest Plan, pp. 3-172 through 3-175): Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire is used to maintain the hard mast producing capabilities of the forest communities containing oaks and hickories. Prescribed fire is used to maintain the diversity of age, structure, and species composition of forest communities across the landscape.

11 (Forest Plan, pp. 3-178 through 3-187): Within the core of the riparian corridor, vegetation management activities, including prescribed fire, may take place to maintain, restore, and/or enhance the diversity and complexity of native vegetation, rehabilitate both natural and human-caused disturbances, and provide habitat improvements for aquatic and riparian- associated wildlife species (including migratory birds), provide for visitor safety, or to accommodate appropriate recreational uses. Prescribed fire can be used within the corridor to create or maintain the composition and vitality of fire-dependent vegetative communities.

12B (Forest Plan, pp. 3-191 through 3-194): Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire is used to maintain the hard mast producing capabilities of the forest communities containing oaks and hickories. Prescribed fire is used to maintain the diversity of age, structure, and species composition of forest communities across the landscape.

Direction provided in Forest Service Handbook, *Environmental Policy and Procedures Handbook* 1909.15 Chapter 30 requires the Responsible Official to consider whether extraordinary circumstances related to the decision may result in a significant individual or cumulative environmental effects and warrant analysis in an EA or an EIS. The mere presence of one or more of these resource conditions does not preclude the use of a CE. It is the existence of a cause-effect relationship between a proposed action and the potential effect on these resource conditions and if such a relationship exists, the degree of the potential effect of a proposed action on these resource conditions that determine whether extraordinary circumstances exist (36 CFR 220.6(b)). This project was analyzed (per FSH 1909.15, Section 31.2) by an Interdisciplinary Team for the following resource conditions and the results are as follows:

a. Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species:

A Biological Evaluation/Biological Assessment (BE/BA) was completed for this project. The BE/BA determined that there will be no effect on Federally listed threatened or endangered species, designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species. The U.S. Fish and Wildlife Service (USFWS) was informed of this project during scoping and has concurred with the BE's determination of no effect. Dismal Creek has been designated as critical habitat for the candy darter, a recently listed endangered species by the USFWS. Therefore the Kimberling Creek-Walker Creek HUC6 050500020105 has been added to the list of watersheds for the

Federally Listed Fish and Mussel Conservation Plan, developed in cooperation with the USFWS in 2004. The Forest Plan standards are consistent with those listed in this conservation plan.

b. Flood plains, wetlands, or municipal watersheds:

The proposed actions are in compliance with Executive Orders 11988 (Floodplains) and 11990 (Wetlands). Two municipal watersheds exist within the project area: Town of Pulaski and Bland Correctional Center. Best Management Practices and project design criteria will be adequate to protect these surface water supplies.

c. Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas:

There are no proposed actions within any congressionally designated area.

d. Inventoried Roadless Areas or potential wilderness areas:

The Project Area includes approximately 28,267 acres of Inventoried Roadless Areas (IRAs) within 12 prescribed burn units. These units will include approximately 6.35 miles of new dozer line and 7.7 miles of handline construction in addition to the construction of 17 helispots within the IRAs (see Appendix C). The use of prescribed fire is allowed in IRAs under the 2001 Roadless Area Conservation Rule (RACR). The dozer lines would be constructed to minimize impacts to overstory trees by meandering between larger trees rather than following straight lines. Larger trees would be cut for each 0.3-acre helispot. The total acres associated with the helispots would impact about 5 acres within four individual IRAs. The RACR permits this timber cutting because it is incidental to an activity (prescribed fire) that is not otherwise prohibited by the Rule (36 CFR 294.13(b)(2)). The use of prescribed fire is intended to restore the effects of fire to the area's ecosystem, consistent with natural processes, and would ultimately enhance the natural integrity of the area. The direct impacts of the fire during project implementation (smoke, flames) would be short term (less than 24 hours), and any impact on apparent naturalness would be insignificant. The visible effects of the fire (i.e. charring of vegetation, opening of understory) would appear natural and would mute over time. The visual impact of the fire line will also mute over time and will not be obvious to the casual observer. The project would have no effect on the area's overall solitude or potential for a primitive recreation experience.

e. Research natural areas:

There are no research natural areas on the Eastern Divide Ranger District.

f. American Indians and Alaska Native religious or cultural sites:

The dozer lines and helispots were reviewed utilizing the Forest's cultural resource atlas, previous knowledge of the project area, and field reconnaissance. The treatment areas have been cleared of cultural resource concerns and there will be no effect on American Indian religious or cultural sites with project implementation. A letter of concurrence from the State Historic Preservation Office is located in the project's analysis file.

g. Archaeological sites, or historic properties or areas:

The dozer lines and helispots were reviewed utilizing the Forest's cultural resource atlas, previous knowledge of the project area, and field reconnaissance. Two stone survey monuments were located and will be flagged for avoidance. The treatment areas have been cleared of cultural resource concerns and there will be no effect on archeological sites, or historic properties or areas with project implementation. A letter of concurrence from the State Historic Preservation Office is located in the project's analysis file.

5. PUBLIC INVOLVEMENT

Due to the public interest in this project, open houses were held on June 27 and 28, 2017 during the project's initial development phase. A scoping letter was signed and mailed to interested parties on May 21, 2018 with a 30 day scoping period beginning June 14, 2018. A public meeting and field trip was held on May 31, 2018, and a second field trip occurred on June 1, 2018. This project has also been listed in the Schedule of Proposed Actions (SOPA) for the George Washington and Jefferson National Forest. This schedule is available on the internet at www.fs.fed.us/r8/gwj. Comments were received from the Virginia Department of Natural Heritage, 9 private citizens/adjacent landowners, the Cherokee National Tribal Historic Preservation Office, the Virginia Wildlife Habitat Coalition, and the Southern Environmental Law Center. Specific concerns regarding design criteria and mitigation measures, capacity concerns, adaptive management, monitoring, trails as control lines, NNIS, old growth in helispots, construction of dozer line and helispots on steep slopes, and high priority areas have been addressed in this decision. Documentation of the scoping effort and comments received is located in the project file.

An Interdisciplinary Team of resource specialists was utilized to review comments and to analyze the impact of this project on various resources. This team consisted of the District's Fire Management Officer, wildlife biologist, Timber Management Assistant and Recreation Specialist, in addition to a fire ecologist, an archeologist, a hydrologist, and a fisheries biologist.

6. FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

Forest Plan Consistency (National Forest Management Act). This decision is consistent with the 2004 Jefferson National Forest Revised Land and Resource Management Plan. The project was designed in conformance with the land management plan direction relevant to project activities.

Endangered Species Act. See the above section "Rationale for Categorical Exclusion."

Clean Water Act. This decision incorporates Best Management Practices and Forest Plan standards to ensure protection of soil and water resources. This project complies with the Clean Water Act.

National Historic Preservation Act, Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act. See the above section "Rationale for Categorical Exclusion."

Migratory Bird Treaty Act. This project complies with this Act by avoiding or minimizing any adverse impacts on migratory birds.

Wetlands (Executive Order 11990) and Floodplains (Executive Order 11988). See the above section "Rationale for Categorical Exclusion."

Invasive Species (Executive Order 13112). This order requires the consideration of invasive species in actions taken by Federal agencies. To the extent practicable and lawful, agency actions should prevent the introduction of invasive species and provide for their control. This project complies with Executive Order 13112.

7. IMPLEMENTATION, ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITY

Pursuant to the Consolidated Appropriations Act of 2014 (Public Law No. 113-76, Section 431) and the Agricultural Act of 2014 (Public Law No. 113-79) which repealed the Appeals Reform Act (Public Law No. 102-381), this decision is not subject to administrative review and may be implemented immediately.

8. CONTACT

The project analysis file is available for public review at the Eastern Divide District Office: 110 Southpark Drive, Blacksburg, Virginia 24060 (Telephone: 540-552-4641). Questions regarding this decision may be addressed to Dan McKeague, District Ranger.

THIS DOCUMENT IS A DRAFT THAT IS PROVIDED FOR PUBLIC COMMENT AND SHOULD NOT BE CONSIDERED A FINAL DECISION DOCUMENT.

_____ _____

Daniel W. McKeague Date
District Ranger

Appendices:

A. Ecological zones (in acres) present in each prescribed burn unit.
B. Forest plan management prescriptions, miles of new handline and dozer line construction, primary and secondary objectives, and burn history for new and existing prescribed burn units.
C. Inventoried Roadless Areas within the Project Area.

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APPENDIX A. Ecological zones (in acres) present in each prescribed burn unit.

		SIMON (2014) ECOLOGICAL ZONES					
RX BURN UNIT	**ACRES**	**OAK FORESTS & WOODLANDS (acres)**	**PINE FORESTS & WOODLANDS (acres)**	**COVE FORESTS (acres)**	**FLOODPLAINS, WETLANDS, RIPARIAN AREAS (acres)**	**CLIFF, TALUS, SHALE BARRENS (acres)**	**NORTHERN HARDWOOD FORESTS (acres)**
NEW RX BURN UNITS							
Bald Mountain: Units 1-4	5,850	4,678	972	193	7	0	0
Beartown: Fuel Break, Unit 1	434	213	200	16	5	0	0
Blacksburg Shooting Range: Unit 1	260	247	13	0	0	0	0
Broad Run	1,881	1,165	682	34	0	0	0
Brush Mtn East: Fuel Break, Units 1-3	1,503	1,003	404	96	0	0	0
Brush Mtn West: Fuel Break, Units 1-10	3,202	2,489	675	35	3	0	0
Brushy Mountain: Units 1-4	2,934	2,078	291	566	0	0	0
Caldwell Mtn	3,644	2,840	760	44	0	0	1
Dismal: Units 1-5	5,983	4,951	494	492	46	0	0
Fenwick Rec Area: Units 1-2	464	413	20	13	15	4	0
Johns Creek Mtn	6,177	4,578	1,574	25	0	0	4
Kimberling Creek	2,205	1,379	315	353	41	113	0
Lick Mtn	628	440	181	6	0	0	0
Little Mtn	564	466	89	9	0	0	0
Little Walker Mtn: Units 1-3	1,076	930	95	18	31	3	0
North Mountain	6,872	4,398	2,391	76	5	2	0
Nutters Mtn	742	716	22	4	0	0	0
Pearis Mtn	855	657	0	198	0	0	0
Peters Mtn	1,733	1,591	5	137	0	0	0
Porterfield Road	121	91	16	14	0	0	0
Potts Mountain: Units 1-10	9,474	8,697	390	390	0	0	0
Price Mtn: Units 1-5	6,837	5,089	1,688	4	28	28	1
Round Mountain East: Units 1-3	1,836	1,791	0	45	0	0	0
Sinking Creek Mountain: Units 1-3	3,042	2,871	155	16	0	0	0
Tract Mtn: Units 1-5	5,976	4,527	981	137	39	292	0

		SIMON (2014) ECOLOGICAL ZONES					
RX BURN UNIT	**ACRES**	**OAK FORESTS & WOODLANDS (acres)**	**PINE FORESTS & WOODLANDS (acres)**	**COVE FORESTS (acres)**	**FLOODPLAINS, WETLANDS, RIPARIAN AREAS (acres)**	**CLIFF, TALUS, SHALE BARRENS (acres)**	**NORTHERN HARDWOOD FORESTS (acres)**
Walker Mountain	1,688	1,575	82	32	0	0	0
Subtotal	**75,981**	**59,873**	**12,496**	**2,948**	**220**	**442**	**5**
EXISTING RX BURN UNITS							
Kelly Flats- Mud Branch	240	209	1	17	12	0	0
Mill Creek: Units 1-2	670	535	99	37	0	0	0
No Business: Units 1-6	4,973	3,863	186	924	0	0	0
Patterson: Units 1-2	2,247	1,895	322	1	27	2	0
Piney Mountain: Units 1-2	1,169	909	227	16	15	0	0
Powderhouse	278	201	67	5	5	0	0
Rocky Mountain-Cherokee Strip (A)	1,176	773	17	383	3	0	0
Rocky Mountain-Nettle Hollow	1,298	949	45	298	6	0	0
Round Mountain West: Units 1-3	1,363	1,336	1	26	0	0	0
Upper Craig Creek: Units 1-2	969	895	69	0	4	1	0
Subtotal	**14,383**	**11,566**	**1,035**	**1,706**	**71**	**3**	**0**
EXISTING RX FIRE OPEN AREAS							
Barbours Creek	70						
Bunch Place: Units 1-3	87						
Burris	42						
Caldwell Fields	45						
Craig Creek Rec. Area: Whole and Grass	352						
Liatris	50						
Subtotal	**646**						
Total	**91,010**	**71,439**	**13,531**	**4,654**	**291**	**445**	**5**

APPENDIX B. Forest plan management prescriptions, miles of new handline and dozer line construction, primary and secondary objectives, and burn history for new and existing prescribed burn units.

RX BURN UNIT	ACRES	MANAGEMENT PRESCRIPTIONS	NEW DOZERLINE (miles)	NEW HANDLINE (miles)	PRIMARY OBJECTIVE	SECONDARY OBJECTIVE	BURN HISTORY
Bald Mtn: Units 1-4	5,850	9H,8B, 6C, 4E1, 7B	1.6		Ecological Restoration	Community Protection	
Beartown: Fuel Break, Unit 1	434	8C, 12B, 8A1,6C		0.8	Community Protection		
Blacksburg Shooting Range: Unit 1	260	8C, 4J, 7D, 7B, 5B, 5C			Community Protection		
Broad Run	1,881	12B, 5C, 8B, 6C		1.1	Ecological Restoration	Community Protection	
Brush Mtn East: Fuel Break, Units 1-3	1,503	4J, 5C, 8A1	2.3	0.1	Community Protection	Ecological Restoration	
Brush Mtn West: Fuel Break, Units 1-10	3,202	7E2, 7D, 5A, 4J	0.4	4.5	Community Protection	Ecological Restoration	
Brushy Mtn: Units 1-4	2,934	8A1, 9A1, 9A3, 4A, 6B, 6C	2.6	2	Community Protection	Ecological Restoration	
Caldwell Mtn	3,644	12B, 7E2		1.6	Community Protection	Ecological Restoration	
Dismal: Units 1-5	5,983	8A1, 7E1, 7E2, 4A, 9F, 7D,5B		2.3	Ecological Restoration	Community Protection	
Fenwick Rec Area: Units 1-2	464	4E1, 8B	0.6		Community Protection	Ecological Restoration	
Johns Creek Mtn	6,177	8A1, 6C, 8E1, 6A	4.3	4.7	Ecological Restoration	Community Protection	
Kimberling Creek	2,205	8A1, 5C, 6C, 4A	0.3		Ecological Restoration	Community Protection	
Lick Mtn	628	12B, 9F, 5C			Ecological Restoration	Community Protection	
Little Mtn	564	8A1, 6C	1.4	1.4	Community Protection	Ecological Restoration	

RX BURN UNIT	ACRES	MANAGEMENT PRESCRIPTIONS	NEW DOZERLINE (miles)	NEW HANDLINE (miles)	PRIMARY OBJECTIVE	SECONDARY OBJECTIVE	BURN HISTORY
Little Walker Mtn: Units 1-3	1,076	12B, 8E1, 9A1	3.1	1.3	Community Protection	Ecological Restoration	
North Mtn	6,872	12B, 8B, 7B, 4D, 5C	6.3	0.7	Community Protection	Ecological Restoration	
Nutters Mtn	742	8A1, 5A	2.2		Community Protection	Ecological Restoration	
Pearis Mtn	855	12B, 4A			Ecological Restoration	Community Protection	
Peters Mtn	1,733	8A1, 4A, 6C			Ecological Restoration	Community Protection	
Porterfield Road	121	8A1		0.5	Community Protection		
Potts Mtn: Units 1-10	9,474	7E1, 8E4B, 8A1, 9F, 7B, 6C, 1A	6.6		Community Protection	Ecological Restoration	
Price Mtn: Units 1-5	6,837	12B, 7E2, 8A1, 9A2,7E1, 9F	1.1	3.4	Community Protection	Ecological Restoration	
Round Mtn East: Units 1-3	1,836	8A1			Community Protection	Ecological Restoration	
Sinking Creek Mtn: Units 1-3	3,042	8C, 6C, 8A1, 4A, 9F	4.6	1.9	Community Protection	Ecological Restoration	
Tract Mtn: Units 1-5	5,976	9A1, 12B, 8A1, 6C, 5C, 8E1		1.8	Community Protection	Ecological Restoration	
Walker Mtn	1,688	12B, 7B, 8A1, 6C	1.2	0.2	Community Protection	Ecological Restoration	
Subtotal	**75,981**		**38.5**	**28.1**			
Kelly Flats- Mud Branch	240	8B			Ecological Restoration	Community Protection	2009, 2010, 2012, 2016

RX BURN UNIT	ACRES	MANAGEMENT PRESCRIPTIONS	NEW DOZERLINE (miles)	NEW HANDLINE (miles)	PRIMARY OBJECTIVE	SECONDARY OBJECTIVE	BURN HISTORY
Mill Creek: Units 1-2	670	8B, 9H, 4E1			Community Protection	Ecological Restoration	2001, 2008, 2012, 2014, 2016, 2017
No Business: Units 1-6	4,973	8A1, 4A, 5C			Ecological Restoration	Community Protection	2009, 2017
Patterson: Units 1-2	2,247	12B, 8A1, 9F			Ecological Restoration	Community Protection	2004, 2008, 2010
Piney Mtn: Units 1-2	1,169	9A1, 12B, 5C			Community Protection	Ecological Restoration	2008, 2013
Powderhouse	278	8A1			Community Protection	Ecological Restoration	2003, 2010, 2014
Rocky Mountain-Cherokee Strip (A)	1,176	8A1, 9A4, 6C, 9F, 4A			Ecological Restoration	Community Protection	2007
Rocky Mountain-Nettle Hollow	1,298	8A1, 4A, 6C, 7E2			Ecological Restoration	Community Protection	2017
Round Mountain West: Units 1-3	1,363	8A1			Community Protection	Ecological Restoration	2004, 2008, 2016
Upper Craig Creek: Units 1-2	969	8A1, 6C, 8C, 5C		0.5	Community Protection	Ecological Restoration	2008, 2013
Subtotal	**14,383**		**0**	**0.5**			
Barbours Creek	70				Early Successional Habitat	Open Area Visuals	

RX BURN UNIT	ACRES	MANAGEMENT PRESCRIPTIONS	NEW DOZERLINE (miles)	NEW HANDLINE (miles)	PRIMARY OBJECTIVE	SECONDARY OBJECTIVE	BURN HISTORY
Bunch Place: Units 1-3	87				Early Successional Habitat	Open Area Visuals	
Burris	42				Early Successional Habitat	Open Area Visuals	
Caldwell Fields	45				Early Successional Habitat	Open Area Visuals	2004, 2006, 2009, 2013
Craig Creek Rec. Area: Whole and Grass	352				Early Successional Habitat	Open Area Visuals	2006, 2007, 2009, 2011, 2012, 2014
Liatris	50				Early Successional Habitat	Open Area Visuals	2013, 2016
Subtotal	**646**						
Total	**91,010**		**38.5**	**28.6**			

APPENDIX C. Inventoried Roadless Areas within the Project Area with miles of new and existing dozer lines, new handlines, and number of helispots.

RX BURN UNIT	INVENTORIED ROADLESS AREA	NEW DOZER LINE (miles)	EXISTING DOZER LINE (miles)	NEW HANDLINE (miles)	HELISPOTS
Beartown: Fuel Break, Unit 1	Beartown Addition B- 426 ac		0.6		
Broad Run	Broad Run- 1,343 ac				1
Brush Mountain East: Fuel Break, Units 1-3	Brush Mtn- 1,044 ac	1.3	2.7		
Caldwell Mountain	Broad Run- 3,643 ac		1.2		1
Lick Mountain	Broad Run- 615 ac				
Little Walker Mountain Units 1-3	Little Walker Mtn- 808 ac	3.1			3
North Mountain	North Mtn- 5620 ac	1.5		.3	5
Patterson: Units 1-2	Pattern Mtn- 2234 ac				
Piney Mountain: Units 1-2	Little Walker Mtn- 978 ac				
Price Mountain: Units 1-5	Broad Run- 700 ac	.1	.7	3	4
	Price Mtn- 6,132 ac				
Tract Mountain: Units 1-5	Little Walker Mtn- 3488 ac			.6	3
Walker Mountain	Long Spur- 1229ac	.4	.1	.2	
Total	**28,623**	**6.35**	**5.3**	**7.7**	**17**